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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/415,679	10/08/1999	XI CHEN	15962-0012	5155

7590 06/29/2005

SQUIRE, SANDERS & DEMPSEY
14TH
8000 TOWERS CRESCENT DRIVE
TYSONS CORNER, VA 22182-2700

EXAMINER

CHANG, EDITH M

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/415,679

Applicant(s)

CHEN, XI

Examiner

Edith M. Chang

Art Unit

2637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 2-23 have been considered but are moot in view of the new ground(s) of rejection. The previous final rejection has been withdrawn.

Claim Objections

2. Claims 2-9, 16 and 20-23 are objected to because of the following informalities:

Claim 2, line 2: "industry-standard data signals" should be changed to "data signals".

Claim 7 line 3 & Claim 9 line 2: "powered-down mode" should be changed to "a powered-down mode".

Claim 9, line 2: "all subcircuits except for said transmitter subcircuit" should be changed to "said receiver subcircuit", since the transceiver comprises only a transmitter subcircuit and a receiver subcircuit recited in claim 2.

Claim 16, line 2: "all subcircuits except for said transmitter pulse" should be "said receiver subcircuit" since the transceiver comprises only a transmitter subcircuit and a receiver subcircuit recited in claim 10, and "said transmitter pulse" lacks antecedent basis, "said media independent interface subcircuit" should be "said independent interface".

Claim 20, line 3: "said media independent interface subcircuit" should be "said independent interface".

Claim 21, lines 10 & 11: "subcircuit" should be "subcircuit means".

Claim 22, line 6: "means for having" should be "means having"; line 7, 11 & 12: "subcircuit" should be "subcircuit means".

Claim 23, lines 8, 12 & 13: "subcircuit" should be "subcircuit means".

Claims 3-6 and 8 are dependent on the objected claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In page 2 lines 10-11 of the prior art section of the current specification states that Fig.1a illustrates the "*industry standard*" specified normal link pulse "nlp" for *transmission*, and in page 6 lines 5-9, wherein the link pulses is a short duration pulse recurring every predefined period like the *industry specified* normal link pulse (nlp) that is shown in Fig.1a as

in lines 12-14, states that for auto negotiation mode, referring to Fig.1b, the "*industry specification*" requires that there be *pulses*, wherein the auto-negotiation

enters the state that the circuit is activated or powered-on as stated in the specification page 6 lines 14-15;

in Page 6 lines 9-10 of the current specification states that the "*industry specification*" requires the MLT3 signal (shown in Fig. 1c) to indicated a live connection (not transmitting data, it is for the signaling such as the signal for indicating status of the link in a powered-down mode or during idle period page 2 lines 6-8).

In the claims 2, 5, 10, 13, 17, 18, 21, 22 and 23, "*an industry-standard pulse*" fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention, wherein the "industry-standard pulse" is indefinite.

Claim 7, line 2: the "data" of "receiving data" does not clearly indicate that it is the transmitted and received "data signals" recited in line 2 claim1 or different data.

Claim 8, lines 2-3: "said transceiver into the power-on mode" lacks antecedent basis and indefinite, since in the parent claim 2 line 9 recites "said transmitter subcircuit is in a power-on mode" and in the parent claim 7 line 3 recites "said receiver subcircuit remains power-on during a powered-down mode", said transceiver comprises said transmitter subcircuit in the power-on mode and said receiver subcircuit in a powered-down mode, what the transceiver is in a "power-on mode" or "powered-down mode"?

Claim 15, lines 2-3: "said transceiver into the power-on mode" lacks antecedent basis and indefinite, since in the parent claim 10 line 10 recites "said transmitter subcircuit is in a power-on mode" and in the parent claim 10 line 7 recites "said receiver subcircuit remains power-on during the powered-down mode", said transceiver comprises said transmitter subcircuit in the power-on mode and said receiver subcircuit

Art Unit: 2637

in the powered-down mode, what the transceiver is in a "power-on mode" or "powered-down mode"?

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-6 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crayford (US 5404544) in view of Beard et al. (US 6,434,187 B1) and the Application Note LM20/25.

Regarding **claims 2 & 21**, In FIG.5A & FIG.-5B (column 6 lines 63-66), Crayford teaches a transceiver in FIG.-5A & FIG.-5B, the transceiver comprising a driver (82 & 102 FIG.-5A and 89 & 88 FIG.-5B as the transmitter) and a receiver (104, 100, 98 & 84 FIG.-5A and 96 & 92 FIG.-5B). In FIG.3 & FIG.-5A 101 LINK BEAT (column 3 lines 44-58, to detect the link in place), the driver transmits the LINK BEAT to indicate a status of the link being in place (a live transceiver) even during sleep (powered-down) mode (lines 34-37),

but Crayford does not explicitly specify the well-known technique of separate power suppliers to the driver and the receiver of the transceiver. However, Beard et al. teaches the well-known technique of saving power consumptions having different power

suppliers to different parts of a transceiver (provides different activation and deactivation means U3 of 122, U16 of 124 and U11 of 126 of FIG._3) in FIG._3 (column 7 lines 3-5). At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have different power suppliers to different components of LAN transceiver (FIG._1 to FIG._3, column 5 lines 42-46 '187) taught by Beard et al. in Crayford's transceiver that the driver and the receiver have separate power suppliers (with the activation/deactivation means) to conserve power, minimize noise, and improve stability (column 7 lines 3-5 '187);

Crayford does not specify the signaling used in the essential auto-negotiation of a LAN transceiver entering the powered-on mode to transmit data, however the LM20/25 Application Notes (10baseT Equipment section) teaches the 10baseT transmitting a (Normal Link Pulse) NLP to *maintain* the link (in an idle period/powered-down mode i.e. not transmitting the data), and new products supporting auto-negotiation by exchanging Link Code Words (the Fast Link Pulses FLPs compatible to the standard, Introduction section) in the powered-on mode (not idling) to *establish* the link for transmitting data, wherein the Link Code Words describes the comparisons of capabilities between the transmitter and receiver (lines 8-12 Introduction section). At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to use the FLP in auto-negotiation taught and suggested by the LM20/25 Application Notes in the Crayford 10baseT to automatically select half duplex or full duplex based mode based on the highest common mode of operation for the purpose to

establish the link for transmitting data to the partner (lines 4-6, 10baseT Equipment of the Application Note LM20/25).

Regarding **claims 3 & 4**, Crayford discloses the pulse is a link pulse (column 3 lines 47-48, FIG.-2 & -3 '544) and is a minimally powered pulse.

Regarding **claim 5**, the modified/combined Crayford's device teaches the FLPs once the circuit is in the operating mode that is a signal being received on the receiver (the Application Note).

Regarding **claim 6**, the modified/combined Crayford device teaches the auto-negotiation process (the Application Note).

7. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crayford (US 5404544) in view of Beard et al. (US 6,434,187 B1) & the Application Note LM20/25 as applied to claim 2 above, and further in view of Wakeley et al. (US 6,198,727 B1).

Regarding **claim 7**, Crayford discloses the receiver is active/power-on for receiving data (column 2 lines 34-37), but does not explicitly specify the receiver having a media independent interface. However Wakeley et al. teach the well-known media independent interface in the LAN layers (18 FIG. 1). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to cooperate the Wakeley et al. 's teaching in Crayford's system for the schematic detail of the LAN OSI reference model and for receiving signal from the network via the interface.

Regarding **claims 8**, the modified/combined Crayford's device teaches the receive section of the transceiver remains powered to detect a link beat or receive packet activity (column 4 lines 24-28 '544, wherein the receive section remains powered show the receive section of the transceiver detect a link beat or receive packet activity).

Regarding **claim 9**, the modified/combined Crayford's device teaches the driver/transmitter (with the media independent interface) remaining active to send signal to network to indicate its presence (column 2 lines 33-36 '544).

8. Claims 10-20 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crayford (US 5404544) in view of Beard et al. (US 6,434,187 B1), the Application Note LM20/25 and Wakeley et al. (US 6,198,727 B1).

Regarding **claims 10, 17 & 22-23**, In FIG.-5A & FIG.-5B (column 6 lines 63-66), Crayford teaches a transceiver in FIG.-5A & FIG.-5B, the transceiver comprising a driver (82 & 102 FIG.-5A and 89 & 88 FIG.-5B as the transmitter) and a receiver (104, 100, 98 & 84 FIG.-5A and 96 & 92 FIG.-5B). In FIG.3 & FIG.-5A 101 LINK BEAT (column 3 lines 44-58, to detect the link in place), the driver transmits the LINK BEAT to indicate a status of the link being in place (a live transceiver) even during sleep (powered-down) mode (lines 34-37),

but Crayford does not explicitly specify the well-known technique of separate power suppliers to the driver and the receiver of the transceiver. However, Beard et al. teaches the well-known technique of saving power consumptions having different power suppliers to different parts of a transceiver (provides different activation and deactivation

Art Unit: 2637

means U3 of 122, U16 of 124 and U11 of 126 of FIG._3) in FIG._3 (column 7 lines 3-5).

At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to have different power suppliers to different components of LAN transceiver (FIG._1 to FIG._3, column 5 lines 42-46 '187) taught by Beard et al. in Crayford's transceiver that the driver and the receiver have separate power suppliers (with the activation/deactivation means) to conserve power, minimize noise, and improve stability (column 7 lines 3-5 '187);

Crayford does not specify the signaling used in the essential auto-negotiation of a LAN transceiver entering the powered-on mode to transmit data, however the LM20/25 Application Notes (10baseT Equipment section) teaches the 10baseT transmitting a (Normal Link Pulse) NLP to *maintain* the link (in an idle period/powered-down mode i.e. not transmitting the data), and new products supporting auto-negotiation by exchanging Link Code Words (the Fast Link Pulses FLPs compatible to the standard, Introduction section) in the powered-on mode (not idling) to *establish* the link for transmitting data, wherein the Link Code Words describes the comparisons of capabilities between the transmitter and receiver (lines 8-12 Introduction section). At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to use the FLP in auto-negotiation taught and suggested by the LM20/25 Application Notes in the Crayford 10baseT to automatically select half duplex or full duplex based mode based on the highest common mode of operation for the purpose to establish the link for transmitting data to the partner (lines 4-6, 10baseT Equipment of the Application Note LM20/25).

Crayford does not explicitly specify the receiver having a media independent interface. However Wakeley et al. teach the well-known media independent interface in the LAN layers (18 FIG. 1). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to cooperate the Wakeley et al. 's teaching in Crayford's system for the schematic detail of the LAN OSI reference model and for receiving signal from the network via the interface.

Regarding **claims 11 & 12**, Crayford discloses the pulse is a link pulse (column 3 lines 47-48, FIG.-2 & -3 '544) and is a minimally powered pulse

Regarding **claims 13 & 18**, the combined/modified Crayford's device teaches the FLPs once the circuit is in the operating mode that is a signal being received on the receiver (the Application Note).

Regarding **claims 14 & 19**, the modified/combined Crayford device teaches the auto-negotiation process (the Application Note).

Regarding **claim 15**, the modified/combined Crayford's device teaches the receive section of the transceiver remains powered to detect a link beat or receive packet activity (column 4 lines 24-28 '544, wherein the receive section remains powered show the receive section of the transceiver detect a link beat or receive packet activity).

Regarding **claims 16 & 20**, the modified/combined Crayford's device teaches the driver/transmitter (with the media independent interface) remaining active to send signal to network to indicate its presence (column 2 lines 33-36 '544).

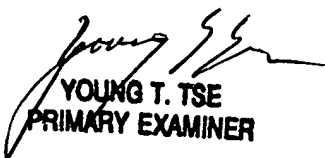
Art Unit: 2637

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay K. Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang
June 23, 2005


YOUNG T. TSE
PRIMARY EXAMINER